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Natural Resources Conservation Service

Idaho Basin Outlook Report February 1, 2000

Basin Outlook Reports
and
Federal - State - Private
Cooperative Snow Surveys

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http://idsnow.id.nrcs.usda.gov/

How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

IDAHO WATER SUPPLY OUTLOOK REPORT

February 1, 2000

SUMMARY

January's winter storms helped ease concerns about lack of snow and potential droughts across southern Idaho. Snowpacks now range from about 70-110% of average across the entire state. Reservoir carryover storage is above normal as a result of last year's abundant snowpacks. Streamflow forecasts range from 75-115% of average for most streams in the state. The lowest streamflow forecasts and greatest areas of concern are the Camas Creek, Big Wood, Little Wood, big Lost and Bear River basins that are forecast at are 45-65% of average. Stay tuned as conditions can rapidly change in a month, as we saw in January, especially if the jet stream dips back over Idaho.

SNOWPACK

Snowpacks improved significantly across Idaho's southern basins that needed snow the most - Owyhee, Camas, Big Wood, Little Wood, and Bear River basins. The Owyhee and Camas Creek basins are now about 90% of average and nearly doubled their snowpacks in one month. But remember, it is easy to double something when there is very little there. Currently, snowpacks across Idaho are more uniformly distributed and range from 70-90% of average for nearly all basins from the Salmon River south. Snowpacks in the Clearwater and Panhandle Region are in the 100-110% of average range. Conditions can still change for better or worse with just under half the winter still to come.

PRECIPITATION

Mother Nature brought high winds and much needed moisture across southern Idaho. Precipitation amounts were the greatest in a triangle area formed by the Owyhee, Big Wood and Bear River basins. January precipitation amounts varied but ranged from 120-180% of average for most SNOTEL sites in this area. Elsewhere, precipitation was in the 90-120% of average range. January's moisture helped, but precipitation since the water year started October 1 is still below normal for the southern 2/3s of the state. Water year to date precipitation is the lowest in the Bear River basin at 64% of average, closely followed by Southside Snake River basins and Wood & Lost River basins at 71% of average. These low precipitation totals are also keeping streamflow forecasts low because of the dry fall and resulting below normal fall streamflows, especially in the central mountains where the October precipitation was only 10-20% of average. The February weather outlook provided by the National Weather Service calls for above normal precipitation across the state with temperatures above normal to the south and below normal to the north. The February-April 90-day forecast is for above normal precipitation in the Panhandle Region and normal elsewhere; temperatures are expected to be above normal in the Bear River area and near normal for the rest of Idaho.

RESERVOIRS

As a result of last year's abundant snowpacks and runoff, nearly all of Idaho's reservoirs and natural lakes are still reporting above average storage levels and are 50-80% full. Dworshak Reservoir is 68% full, 107% of average, and releasing water to maintain storage space. The Payette, upper Snake and Bear Lake storage systems are about 75% full. Years like this, when the snowpack is below normal and reservoir carryover storage is above average, help to illustrate how important Idaho reservoirs are in providing adequate water supplies. Last summer while other parts of the nation were in a drought, precipitation in the Boise valley was only 45% of average during the June-August growing season. However, irrigated agriculture did not suffer due to the abundant snowmelt runoff and ability to store water. Concerns are starting to surface about the possibilities of another drought elsewhere in the nation if the La Nina weather phenomenon continues as it did last summer.

Note: NRCS reports reservoir information in terms of usable volumes, which includes both active, inactive, and in some cases dead storage. Other operators may report reservoir contents in different terms. For additional information, see the reservoir definitions in the back of this report.

STREAMFLOW

After a dry fall and late winter start, natural streamflow volumes for streams unaffected by reservoirs were in the 65-90% of average for the months October through January. Warm temperatures in early February brought heavy rains and wet snow to the Panhandle Region. This event generated short-lived but rapid rises of several feet for many northern Idaho streams. Streamflow forecasts generally increased across most of the state. Summer runoff volumes range from 90-115% of average for streams in the west-central mountains to the Panhandle Region. The lowest forecasts are in the 45-65% of average range for the Big Wood, Camas Creek, Little Wood and Bear River basins. Elsewhere, streams are forecast in the 70-90% of average.

RECREATION

January saw a remarkable improvement in snowpacks across southern Idaho. January's winter storms brought high winds and good snow, as well as improved opportunities for winter recreation and summer water based activities in Idaho. Snowpacks nearly doubled in some southern Idaho basins. Cold temperatures kept snowpack densities lighter than normal across most of the state, but usually warm temperatures in early February are allowing the snow depths to settle rapidly. River runners should see a good runoff season in northern Idaho. River running opportunities are improving in southern Idaho's high desert streams, but more storms are still needed. River runners can keep their fingers crossed and hope the storms continue moving into the state and also across the southern 2/3s of Idaho.

POTENTIAL NEW SNOTEL SITE INSTALLAIONS IN IDAHO!

The Idaho NRCS Snow Survey has an opportunity to install five new SNOTEL sites at manually measured snow courses. A State/Federal Agency Drainage Task Force Team reviewed and prioritized the most critical sites needed to improve early flood warning and climatological voids in Idaho. Following are the high priority snow sites and a brief description of the location and reason for automating.

The Idaho Bureau of Disaster Services has agreed to fund the installation costs of these sites. However, sponsors are needed for providing the annual operation and maintenance funding for these sites. If your agency or community is interested in sponsoring a site and would also benefit from the availability of near-real time data, please contact our local NRCS Field Office or Snow Survey Data Collection Office.

Moscow Mountain Snow Course near Moscow, Latah County
Data need for daily snowpack information in this highly populated area of northern Idaho. Occasionally, we are requested for additional measurements when there is a chance of flooding from above normal snowfall.

Smith Creek Snow Course, Boundary County
This site will fill a climatic data void in the northern most part of Idaho, which is also, one of the higher snow producing zones in Idaho. Need for additional and timely snowpack information during high snow years.

Kellogg Peak Snow Course, Shoshone County
Need for additional and timely climatic information in this central northern part of Idaho.

Van Wyck Snow Course, Washington County
Need for a low elevation climatic site to provide timely data, early flood warning information, and information for water management decisions. Sponsors have been located: Weiser Irrigation District, Weiser Flood Control District, Idaho Power Company, and Squaw Creek Conservation District. Thank you for your support!

Big Lost Mountains (Fishpole Lake Snow Course area), Custer County
Need for a high elevation site in the Big Lost Mountain Range in order to more accurately forecasting snowmelt streamflow peaks for reservoir management on the Big Lost River.

IDAHO SURFACE WATER SUPPLY INDEX (SWSI)
As of February 1, 2000

The Surface Water Supply Index (SWSI) is predictive indicator of surface water availability within a watershed for the spring and summer water use season. The index is calculated by combining pre-runoff reservoir storage (carryover) with forecasts of spring and summer streamflow. SWSI values are scaled from +4.1 (abundant supply) to -4.1 (extremely dry), with a value of zero indicating a median water supply as compared to historical occurrences.

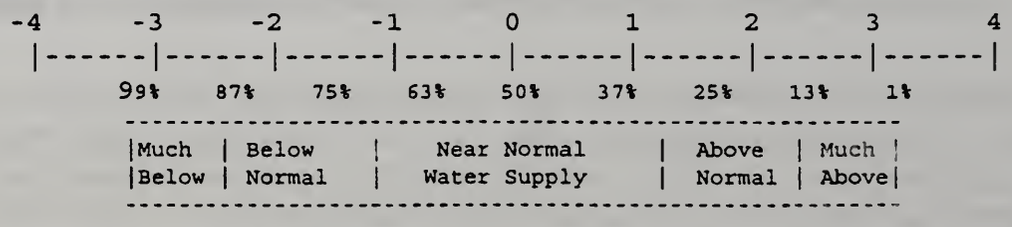
SWSI values are published January through May, and provide a more comprehensive outlook of water availability than either streamflow forecasts or reservoir storage figures alone. The SWSI index allows comparison of water availability between basins for drought or flood severity analysis. Threshold SWSI values have been established for most basins to indicate the potential for agricultural water shortages.

The following agencies and cooperators provide assistance in the preparation of the Surface Water Supply Index for Idaho:

US Department of Commerce, National Weather Service
US Bureau of Reclamation
Idaho Water Users Association
US Army Corps of Engineers
Idaho Department of Water Recourses
PacifiCorp

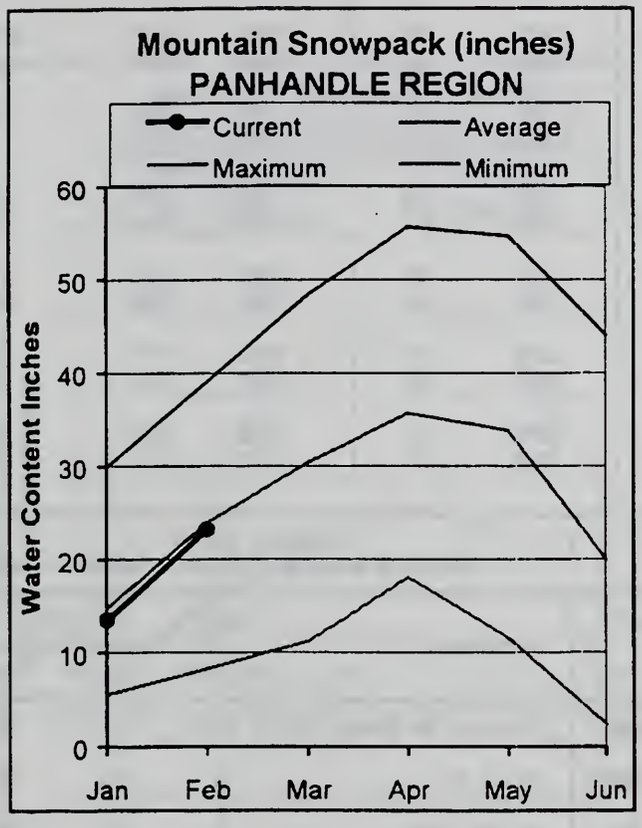
BASIN or REGION	*SWSI Value*	*Most Recent Year With Similar SWSI Value*	*Agricultural Water Supply Shortage May Occur When SWSI is Less Than*
PANHANDLE	0.8	1991	NA
CLEARWATER	1.6	1991	NA
SALMON	0.3	1993	NA
WEISER	-1.6	1981	NA
PAYETTE	0.1	1981	NA
BOISE	-0.3	1993	-2.6
BIG WOOD	-1.5	1981	-1.4
LITTLE WOOD	-0.6	1985	-2.1
BIG LOST	-1.7	1987	-0.8
LITTLE LOST	-0.7	1996	0.0
HENRYS FORK	-1.1	1981	-3.3
SNAKE (AMERICAN FALLS)	-0.3	1985	-2.0
OAKLEY	1.7	1996	0.0
SALMON FALLS	0.9	1978	0.0
BRUNEAU	-1.7	1991	NA
OWYHEE	-0.4	1998	NA
BEAR RIVER	-0.9	1999	-3.8

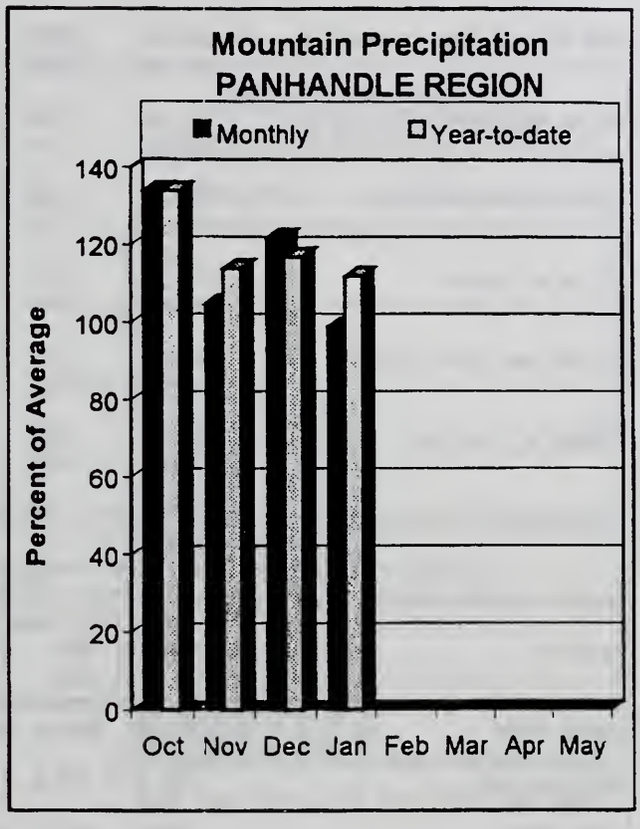
SWSI SCALE, PERCENT CHANCE OF EXCEEDANCE, AND INTERPRETATION



Note: The Percent Chance of Exceedance is an indicator of how often a range of SWSI values might be expected to occur. Each SWSI unit represents about 12% of the historical occurrences. As an example of interpreting the above scale, the SWSI can be expected to be greater than -3.0, 87% of the time and less than -3.0, 13% of the time. Half the time, the SWSI will be below and half the time above a value of zero. The interval between -1.5 and +1.5 described as "Near Normal Water Supply", represents three SWSI units and would be expected to occur about one third (36%) of the time.

PANHANDLE REGION
FEBRUARY 1, 2000





WATER SUPPLY OUTLOOK

Warm temperatures in early February brought rain and wet snow to the Panhandle. Some SNOTEL stations recorded about 2 inches of rain and snow falling in 24 hours that also generated rapid rises in streamflows. This gave an added boost to the slightly above normal snowpack in the Panhandle Region. The snowpack is slightly less than what it was a year ago. January precipitation was normal and is 112% of average for the water year, the highest in the state. This first runoff event of the year will send a surge of water through the natural lakes that had been storing near normal volumes. Summer streamflow forecasts also mirror the snow levels and are forecast in the 95-115% of average range.

PANHANDLE REGION
Streamflow Forecasts - February 1, 2000

Forecast Point	Forecast Period	<<= Drier = Future Conditions = Wetter =>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
KOOTENAI at Leonia (1,2)	APR-JUL	6071	7205	7720	107	8235	9369	7199
	APR-SEP	6973	8277	8870	107	9463	10767	8275
CLARK FK at Whitehorse Rpds (1,2)	APR-JUL	7162	9526	10600	90	11674	14038	11730
	APR-SEP	7917	10519	11700	91	12881	15483	12910
PEND OREILLE Lake Inflow (1,2)	APR-JUL	8578	11206	12400	94	13594	16222	13150
	APR-SEP	9320	12195	13500	94	14805	17680	14370
PRIEST near Priest River (1,2)	APR-JUL	762	871	921	113	971	1080	812
	APR-SEP	787	906	960	111	1014	1133	865
COEUR D'ALENE at Enaville	APR-JUL	682	794	870	113	946	1058	769
	APR-SEP	706	822	900	111	978	1094	809
ST.JOE at Calder	APR-JUL	992	1125	1215	104	1305	1438	1169
	APR-SEP	1060	1197	1290	104	1383	1520	1237
SPOKANE near Post Falls (2)	APR-JUL	2308	2654	2890	110	3126	3472	2627
	APR-SEP	2334	2689	2930	108	3171	3526	2720
SPOKANE at Long Lake	APR-JUL	2625	3023	3293	113	3563	3961	2905
	APR-SEP	2826	3243	3527	113	3811	4228	3128

PANHANDLE REGION
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
HUNGRY HORSE	3451.0	2685.0	2447.0	2362.0
FLATHEAD LAKE	1791.0	717.0	694.3	1095.0
NOXON RAPIDS	335.0	323.6	310.6	314.2
PEND OREILLE	1561.3	715.0	916.5	791.0
COEUR D'ALENE	238.5	65.4	123.5	127.8
PRIEST LAKE	119.3	55.0	55.6	53.9

PANHANDLE REGION
Watershed Snowpack Analysis - February 1, 2000

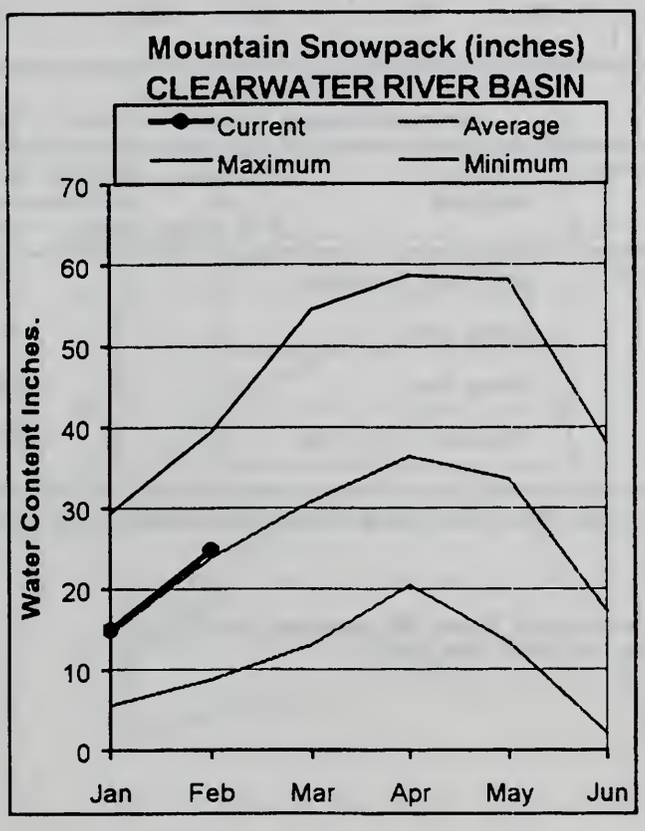
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Kootenai ab Bonners Ferry	23	72	94
Moyie River	10	70	95
Priest River	3	83	108
Pend Oreille River	71	77	93
Rathdrum Creek	5	105	143
Hayden Lake	0	0	0
Coeur d'Alene River	5	87	104
St. Joe River	3	81	95
Spokane River	12	93	114
Palouse River	1	135	135

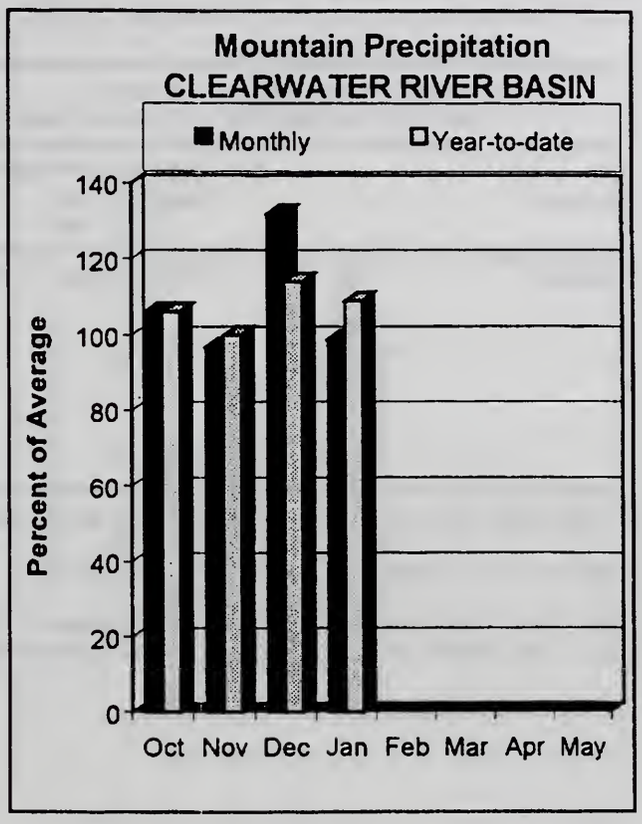
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

CLEARWATER RIVER BASIN
FEBRUARY 1, 2000





WATER SUPPLY OUTLOOK

Snowpack levels range from 97% of average in the Lochsa basin to 108% in the Selway basin. Once again, the Clearwater basin is following the typical La Nina pattern of having a normal or above normal snowpacks. January precipitation was near normal and is 109% of average for the water year. Dworshak Reservoir is 68% of capacity, 107% of average, and is being drafted to maintain adequate space for the 104% of average flow expected for the North Fork Clearwater River. The Clearwater River at Spalding is forecast at 105% of average. Water supplies will be plentiful again as a result of normal or better snowpacks for the past several years.

CLEARWATER RIVER BASIN
Streamflow Forecasts - February 1, 2000

Forecast Point	Forecast Period	<<== Drier == Future Conditions == Wetter ==>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
DWORSHAK RESV INFLOW (1,2)	APR-JUL	2040	2563	2800	104	3037	3560	2687
	APR-SEP	2209	2746	2990	105	3234	3771	2858
CLEARWATER at Orofino (1)	APR-JUL	3903	4623	4950	105	5277	5997	4729
	APR-SEP	4109	4873	5220	105	5567	6331	4990
CLEARWATER at Spalding (1,2)	APR-JUL	6233	7434	7980	105	8526	9727	7618
	APR-SEP	6717	7895	8430	105	8965	10143	8051

CLEARWATER RIVER BASIN
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
DWORSHAK	3468.0	2367.0	2236.8	2211.0

CLEARWATER RIVER BASIN
Watershed Snowpack Analysis - February 1, 2000

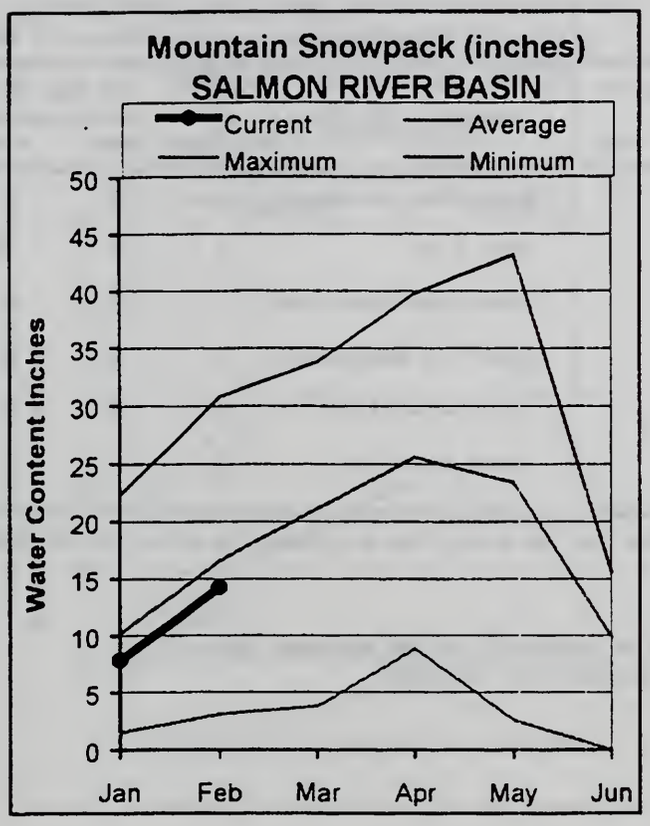
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
North Fork Clearwater	9	81	103
Lochsa River	4	75	97
Selway River	5	84	108
Clearwater Basin Total	18	82	104

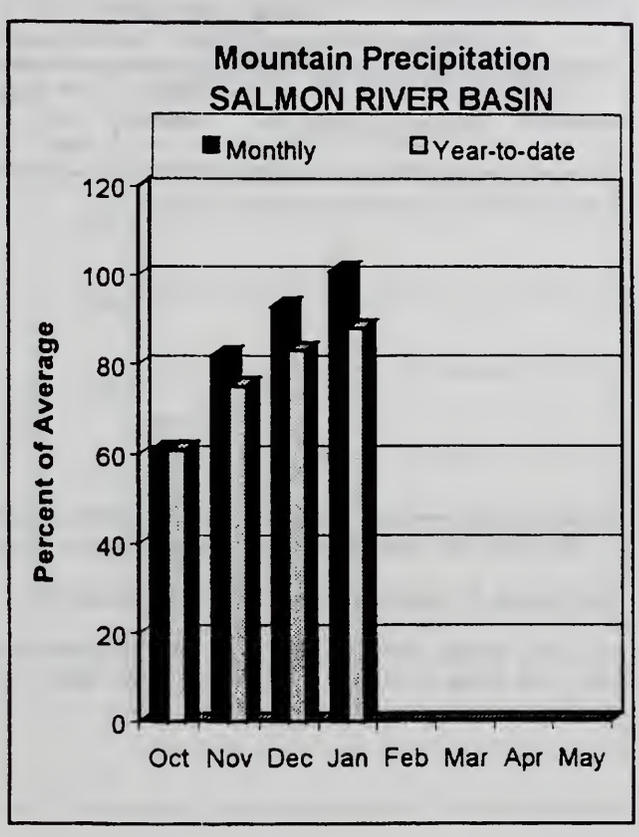
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

SALMON RIVER BASIN
FEBRUARY 1, 2000





WATER SUPPLY OUTLOOK

The Salmon River continues to be the dividing line between above and below normal snowpacks not only in this state but also in the West. The snowpack ranges from 81% of average for the Little Salmon River basin to 93% of average for the Lemhi River basin. The Middle Fork Salmon River snowpack is 84% of average or about 3/4 of what it was last year at this time. Streamflow forecasts are for 93% of average for the Salmon River above Salmon and 99% for the Salmon River at White Bird. River runners will have a good floating season, but they should keep their fingers crossed and hope for an above normal snowpack to extend the boating season. The average April 1 snowpack for La Nina type years for the Salmon basin ranges from 101-161%.

SALMON RIVER BASIN
Streamflow Forecasts - February 1, 2000

Forecast Point	Forecast Period	<<= Drier = Future Conditions = Wetter =>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SALMON at Salmon (1)	APR-JUL	555	727	805	93	883	1055	869
	APR-SEP	669	859	945	93	1031	1221	1019
SALMON at White Bird (1)	APR-JUL	4298	5379	5870	99	6361	7442	5956
	APR-SEP	4793	5974	6510	99	7046	8227	6602

SALMON RIVER BASIN
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

SALMON RIVER BASIN
Watershed Snowpack Analysis - February 1, 2000

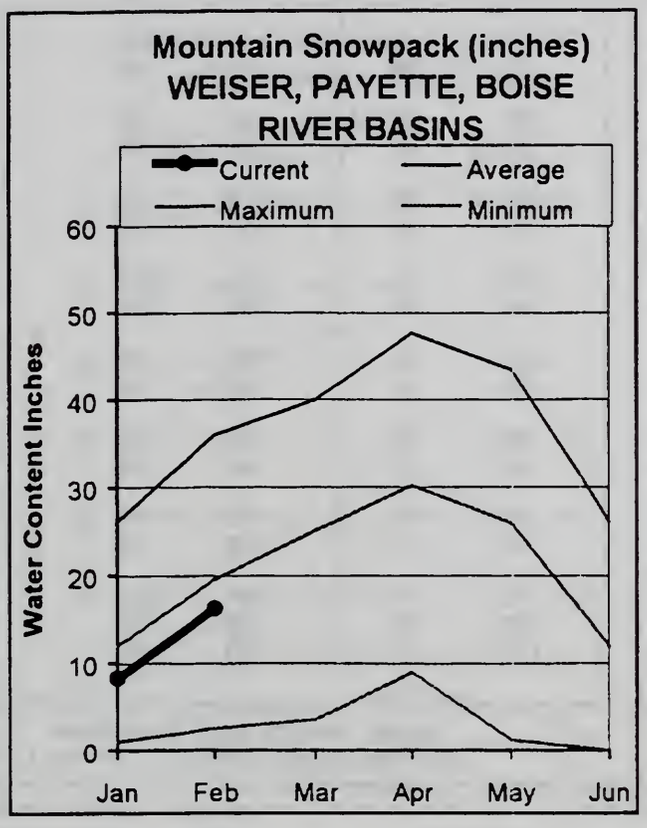
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Salmon River ab Salmon	8	75	86
Lemhi River	5	81	93
Middle Fork Salmon River	3	72	84
South Fork Salmon River	3	68	89
Little Salmon River	4	60	81
Salmon Basin Total	23	71	88

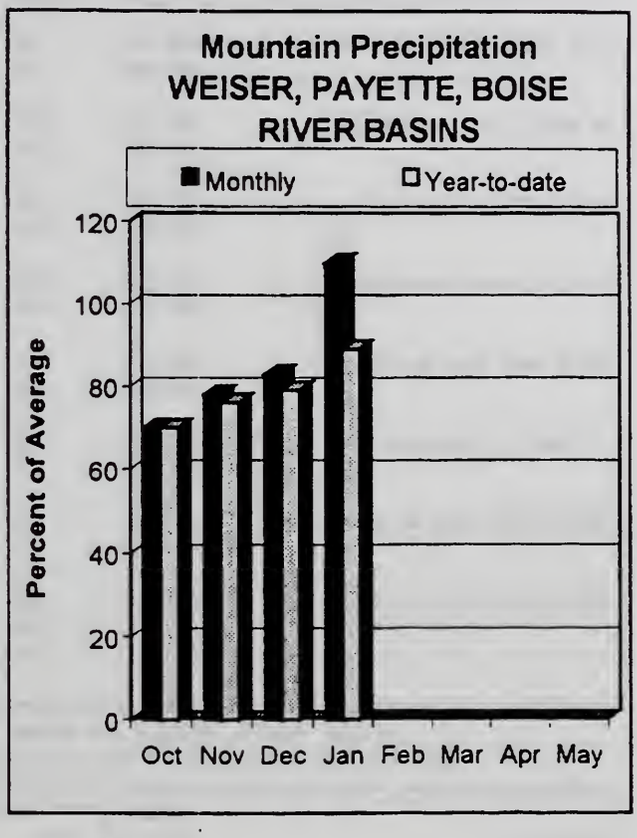
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

WEISER, PAYETTE, BOISE RIVER BASINS FEBRUARY 1, 2000





WATER SUPPLY OUTLOOK

January mountain precipitation was 110% of average and raised snowpacks to a more reasonable level. Snowpacks range from a low of 76% of average in the Weiser basin to a high of 91% in the North Fork Payette basin. Reservoir storage is in good shape with the Payette basin reporting 71% of capacity, 126% of average and the Boise system at 64% of capacity, 108% of average. Summer streamflow volumes call for 95% of average for the Payette River near Horseshoe and 77% for the Boise River near Boise. The Boise Basin Surface Water Supply Index (SWSI) increased from last month and is now -0.3. Even if the 90% Exceedance Forecasts (Reasonable Minimum Forecasts) occurs, agricultural water supplies should still be adequate in these basins.

WEISER, PAYETTE, BOISE RIVER BASINS
Streamflow Forecasts - February 1, 2000

Forecast Point	Forecast Period	<<=== Drier === Future Conditions === Wetter ===>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	50% (Most Probable) (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
WEISER nr Weiser (1)	APR-SEP	140	291	360	87	429	580	415
SF PAYETTE at Lowman	APR-JUL	273	333	374	87	415	475	432
	APR-SEP	327	392	436	89	480	545	488
DEADWOOD RESERVOIR Inflow (1,2)	APR-JUL	82	108	119	88	130	156	135
	APR-SEP	85	112	124	87	136	163	143
LAKE FORK PAYETTE near McCall	APR-JUL	69	78	84	101	91	100	84
	APR-SEP	72	81	88	100	94	104	88
NF PAYETTE nr Cascade (1,2)	APR-JUL	329	443	495	100	547	661	496
	APR-SEP	339	464	520	98	576	701	533
NF PAYETTE nr Banks (2)	APR-JUL	474	576	645	100	714	816	648
	APR-SEP	500	611	686	99	761	872	690
PAYETTE nr Horseshoe Bend (1,2)	APR-JUL	1053	1374	1520	94	1666	1987	1618
	APR-SEP	1148	1500	1660	95	1820	2172	1755
BOISE near Twin Springs (1)	APR-JUL	344	467	522	83	577	700	631
	APR-SEP	380	511	570	83	629	760	686
SF BOISE at Anderson Ranch Dam (1,2)	APR-JUL	213	338	395	73	452	577	544
	APR-SEP	227	363	425	73	487	623	582
MORES CREEK near Arrowrock Dam	APR-JUL	59	83	100	78	117	141	129
	APR-SEP	61	86	103	77	120	145	134
BOISE near Boise (1,2)	APR-JUN	624	863	972	77	1081	1320	1264
	APR-JUL	656	954	1090	77	1226	1524	1421
	APR-SEP	746	1049	1186	77	1323	1626	1535

WEISER, PAYETTE, BOISE RIVER BASINS
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MANN CREEK	11.1	2.8	6.1	4.6
CASCADE	703.2	500.7	527.5	413.5
DEADWOOD	161.9	117.7	125.2	79.0
ANDERSON RANCH	464.2	373.2	394.0	290.2
ARROWROCK	286.6	186.8	253.4	216.0
LUCKY PEAK	293.2	104.4	106.1	109.1
LAKE LOWELL (DEER FLAT)	177.1	103.6	109.4	117.9

WEISER, PAYETTE, BOISE RIVER BASINS
Watershed Snowpack Analysis - February 1, 2000

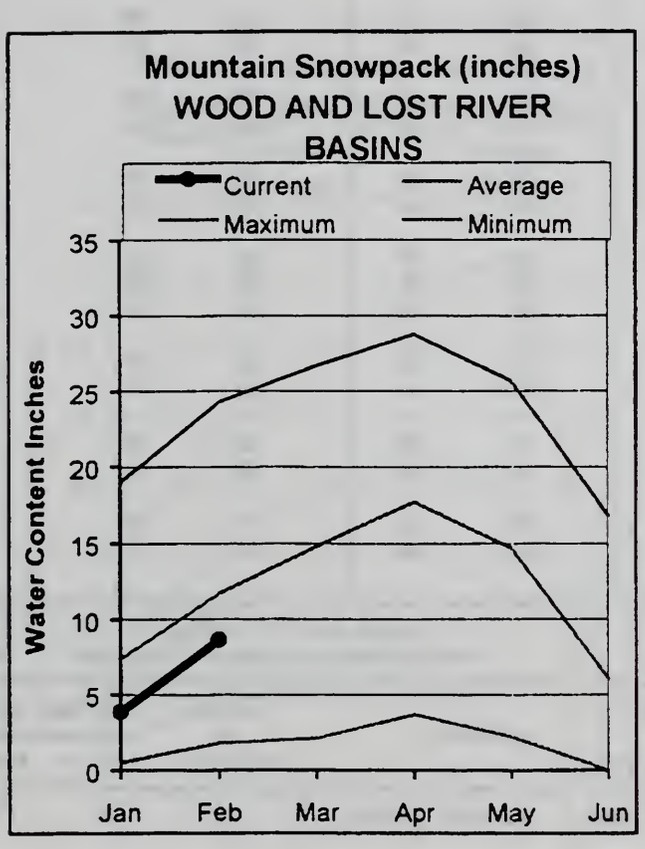
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Mann Creek	1	64	83
Weiser River	3	57	76
North Fork Payette	8	68	93
South Fork Payette	4	75	81
Payette Basin Total	13	71	91
Middle & North Fork Boise	6	73	83
South Fork Boise River	8	73	82
Mores Creek	3	80	102
Boise Basin Total	13	76	87
Canyon Creek	2	91	105

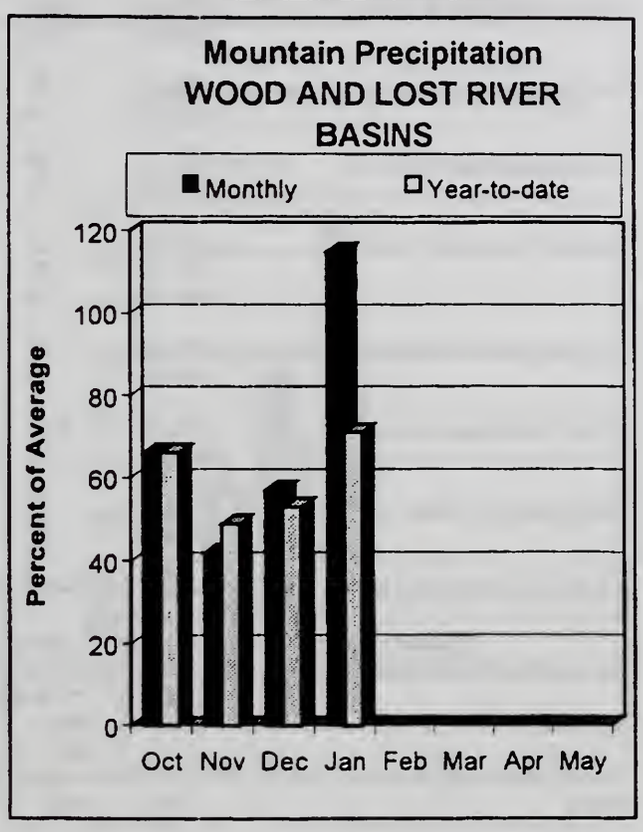
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

WOOD and LOST RIVER BASINS
FEBRUARY 1, 2000





WATER SUPPLY OUTLOOK

The basins that had the lowest snowpacks in the state last month got just what they needed – well above average snowfall in January. January precipitation ranged from 160% of average in the Camas Creek basin to 90% in the Little Lost basin. As a result, snowpacks in the Camas Creek basin shot up like a good day on the stock market. On January 1, Camas Creek snowpack was 37% of average; now it is 92%. The Big Wood basin snowpack is now 79% of average, up 39 percentage points from a month ago. The Big Lost basin snowpack is 64% of average, up 25 percentage points from January 1. Reservoir storage remains promising with Magic, Mackay and Little Wood reservoirs each storing above normal amounts. Streamflow forecasts increased some, but are still some of the lowest in the state with The Big Wood and Camas Creek forecast at 45-55% of average. Forecasts improve in the Little Lost River basin to 85% of average. Water supplies may be marginal in these central Idaho basins, especially if future winter and spring precipitation is below normal.

WOOD AND LOST RIVER BASINS
Streamflow Forecasts - February 1, 2000

Forecast Point	Forecast Period	<<== Drier == Future Conditions == Wetter ==>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
BIG WOOD at Hailey (1)	APR-JUL	55	119	148	58	177	241	255
	APR-SEP	68	137	168	58	199	268	289
BIG WOOD near Bellevue	APR-JUL	11.0	54	84	46	114	157	183
	APR-SEP	14.0	60	91	46	122	168	197
CAMAS CREEK near Blaine	APR-JUL	18.0	31	43	42	56	79	102
	APR-SEP	19.0	32	44	43	57	80	103
BIG WOOD below Magic Dam (2)	APR-JUL	48	103	140	48	177	232	295
	APR-SEP	50	106	145	47	184	240	310
LITTLE WOOD near Carey (2)	MAR-JUL	29	49	63	63	77	98	100
	MAR-SEP	33	54	69	64	84	105	108
BIG LOST at Howell Ranch	APR-JUN	67	90	105	75	120	143	141
	APR-JUL	74	109	133	74	157	192	181
	APR-SEP	85	124	151	73	178	217	206
BIG LOST below Mackay Reservoir (2)	APR-JUL	43	77	100	66	123	157	152
	APR-SEP	56	93	118	64	143	180	184
LITTLE LOST blw Wet Creek	APR-JUL	18.9	24	27	86	30	35	31
	APR-SEP	24	30	34	86	38	44	39
LITTLE LOST nr Howe	APR-JUL	22	25	28	85	31	35	33
	APR-SEP	27	33	36	84	40	45	43

WOOD AND LOST RIVER BASINS
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MAGIC	191.5	101.3	134.7	86.1
LITTLE WOOD	30.0	18.2	23.2	15.4
MACKAY	44.4	29.4	33.4	29.1

WOOD AND LOST RIVER BASINS
Watershed Snowpack Analysis - February 1, 2000

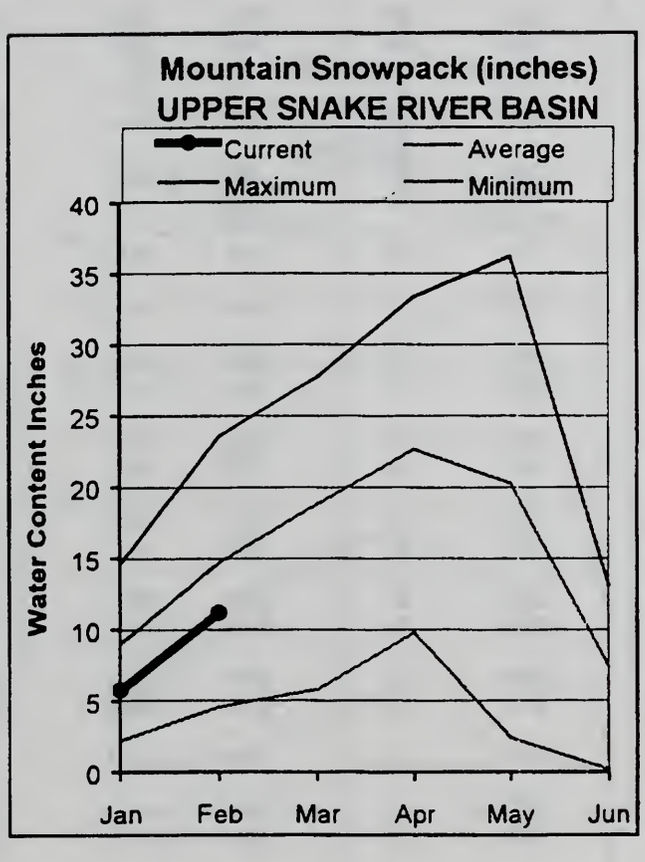
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Big Wood ab Magic	8	72	75
Camas Creek	4	76	92
Big Wood Basin Total	12	73	79
Little Wood River	4	63	67
Fish Creek	2	67	71
Big Lost River	6	60	64
Little Lost River	3	74	76
Birch-Medicine Lodge Cree	2	71	86

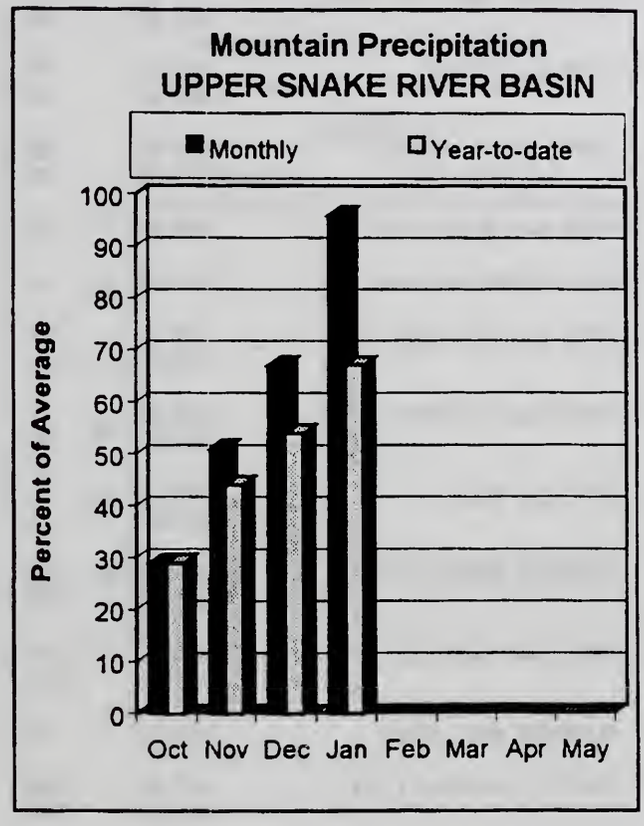
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

UPPER SNAKE RIVER BASIN
FEBRUARY 1, 2000





WATER SUPPLY OUTLOOK

January precipitation varied across the upper Snake basin. The highest amounts, 120% of average, were in the southern tributaries to the Snake River in Wyoming. The least amount of precipitation fell in the Henrys Fork area, about 70% of average. Snowpacks in the Hoback, Greys and Salt rivers increased about 20 percentage points from last month and are now the highest in the basin at about 85% of average. The Henrys Fork snowpack is 77% of average. Overall, the snowpack for the Snake River basin above American Falls Reservoir is 80% of average. Combined reservoir storage for the 8 major reservoirs is 78% of capacity, 115% of average. Releases from American Falls Reservoir will be reduced to ensure filling of the reservoir. Streamflow forecasts range from 75-90% of average. Water supplies should be adequate for the many diverse upper Snake River water uses.

UPPER SNAKE RIVER BASIN
Streamflow Forecasts - February 1, 2000

Forecast Point	Forecast Period	<<= Drier = Future Conditions = Wetter => Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
HENRYS FORK near Ashton (2)	APR-JUL	378	431	467	86	503	556	544
	APR-SEP	534	597	640	88	683	746	730
HENRYS FORK near Rexburg (2)	APR-JUL	763	928	1040	85	1152	1317	1228
	APR-SEP	996	1183	1310	85	1437	1624	1551
FALLS near Squirrel (1,2)	APR-JUL	244	300	325	89	350	406	364
	APR-SEP	302	362	389	90	416	476	432
TETON near Driggs	APR-JUL	95	124	143	94	162	191	152
	APR-SEP	128	163	187	94	211	246	199
TETON near St. Anthony	APR-JUL	224	284	325	86	366	426	377
	APR-SEP	280	348	395	86	442	510	457
SNAKE near Moran (1,2)	APR-SEP	519	650	710	82	770	901	869
PACIFIC CREEK at Moran	APR-SEP	96	116	130	78	144	164	166
SNAKE above Palisades (2)	APR-JUL	1462	1689	1844	80	1999	2226	2311
	APR-SEP	1703	1962	2138	80	2314	2573	2671
GREYS above Palisades	APR-JUL	172	219	250	75	281	328	333
	APR-SEP	209	260	295	76	330	381	388
SALT near Etna	APR-JUL	145	203	242	76	281	339	319
	APR-SEP	196	264	310	78	356	424	399
PALISADES RESERVOIR INFLOW (1,2)	APR-JUL	1726	2258	2500	78	2742	3274	3226
	APR-SEP	2079	2678	2950	78	3222	3821	3763
SNAKE near Heise (2)	APR-JUL	2031	2423	2690	78	2957	3349	3451
	APR-SEP	2419	2866	3170	78	3474	3921	4049
BLACKFOOT RESV INFLOW	APR-JUN	32	60	80	71	100	128	113
SNAKE nr Blackfoot (1,2)	APR-JUL	2286	3203	3620	82	4037	4954	4444
	APR-SEP	2908	3924	4385	80	4846	5862	5482
PORTNEUF at Topaz	MAR-JUL	47	58	65	76	72	83	86
	MAR-SEP	61	73	82	77	91	103	107
AMERICAN FALLS RESV INFLOW (1,2)	APR-JUL	821	1797	2240	73	2683	3659	3066
	APR-SEP	742	1869	2380	72	2891	4018	3303

UPPER SNAKE RIVER BASIN
Reservoir Storage (1000 AF) - End of January

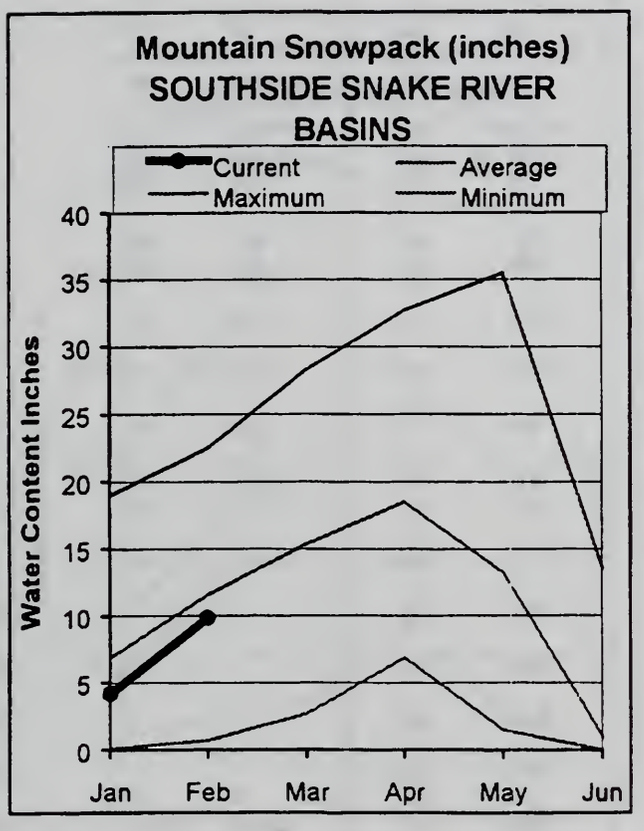
Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
HENRYS LAKE	90.4	88.4	89.6	78.7
ISLAND PARK	135.2	112.1	115.7	100.3
GRASSY LAKE	15.2	12.4	12.9	10.8
JACKSON LAKE	847.0	645.0	606.9	479.6
PALISADES	1400.0	1232.2	1196.0	1044.0
RIRIE	80.5	42.8	41.9	34.1
BLACKFOOT	348.7	280.8	272.3	233.8
AMERICAN FALLS	1672.6	1159.8	1144.9	1125.0

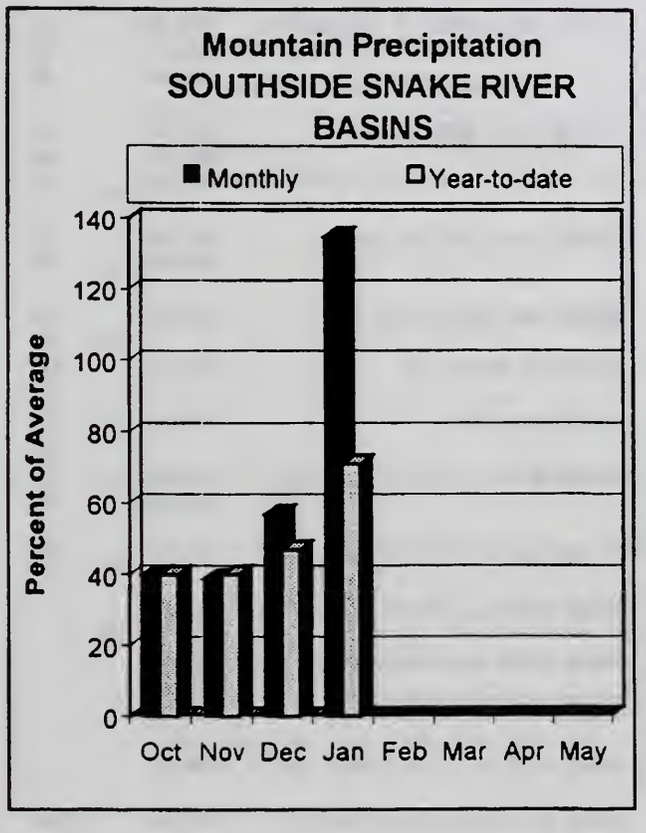
UPPER SNAKE RIVER BASIN
Watershed Snowpack Analysis - February 1, 2000

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Camas-Beaver Creeks	4	62	58
Henrys Fork-Falls River	10	65	77
Teton River	8	79	80
Henrys Fork above Rexburg	18	70	78
Snake above Jackson Lake	9	65	76
Gros Ventre River	3	67	69
Hoback River	6	83	79
Greys River	4	92	86
Salt River	5	92	88
Snake above Palisades	30	74	80
Willow Creek	7	93	90
Blackfoot River	4	93	80
Portneuf River	5	77	74
Snake abv American Falls	43	77	80

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table. The average is computed for the 1961-1990 base period.
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

SOUTHSIDE SNAKE RIVER BASINS FEBRUARY 1, 2000





WATER SUPPLY OUTLOOK

January brought much needed moisture across the southern part of the state, which more than doubled the snowpack. January precipitation was 140% of average and was nearly twice normal in parts of northern Nevada. Currently, snowpacks are 85-95% of average in these high desert streams. Reservoir storage is near normal or better and will help provide additional insurance for the below normal projected streamflows. Streamflow forecasts increased some from last month but are still below normal in the 50-70% of average range. Even with below normal summer streamflows projected, irrigated agricultural water supplies should be adequate, mainly as a result of above average reservoir storage.

SOUTHSIDE SNAKE RIVER BASINS
Streamflow Forecasts - February 1, 2000

Forecast Point	Forecast Period	<<= Drier = Future Conditions = Wetter =>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
OAKLEY RESV INFLOW	MAR-JUL	12.9	18.5	23	70	28	36	33
	MAR-SEP	14.2	20	25	69	30	39	36
OAKLEY RESV STORAGE	FEB-28	35	36	37	129	38	40	29
	MAR-31	37	40	41	125	43	45	33
	APR-30	38	42	44	116	47	50	38
SALMON FALLS CREEK nr San Jacinto	MAR-JUN	31	44	55	64	66	86	86
	MAR-JUL	37	52	64	70	77	99	91
	MAR-SEP	38	54	66	69	79	101	96
SALMON FALLS RESV STORAGE	FEB-28	54	57	59	108	61	64	55
	MAR-31	56	63	67	105	71	78	64
	APR-30	60	68	73	88	78	86	83
BRUNEAU near Hot Springs	MAR-JUL	81	115	141	60	170	217	235
	MAR-SEP	91	127	155	63	185	235	246
OWYHEE near Gold Creek (2)	MAR-JUL	6.5	11.9	16.5	53	22	31	31
OWYHEE nr Owyhee (2)	APR-JUL	0.2	27	45	52	63	90	86
OWYHEE near Rome	FEB-JUL	156	236	300	48	372	491	622
OWYHEE RESV INFLOW (2)	FEB-JUL	172	260	330	50	408	539	656
	FEB-SEP	190	274	340	50	413	533	684
SUCCOR CK nr Jordan Valley	FEB-JUL	5.3	12.4	17.2	106	22	29	16.2
SNAKE RIVER at King Hill (1,2)	APR-JUL			1890	65			2896
SNAKE RIVER near Murphy (1,2)	APR-JUL			1905	64			2980
SNAKE RIVER at Weiser (1,2)	APR-JUL			3400	62			5465
SNAKE RIVER at Hells Canyon Dam (1,2	APR-JUL			3990	65			6129
SNAKE blw Lower Granite Dam (1,2)	APR-JUL	10385	16791	19700	91	22609	29015	21650

SOUTHSIDE SNAKE RIVER BASINS
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
OAKLEY	74.5	36.0	42.4	25.3
SALMON FALLS	182.6	55.5	78.7	50.0
WILDHORSE RESERVOIR	71.5	47.1	54.4	31.5
OWYHEE	715.0	447.4	511.7	464.0
BROWNLEE	1419.3	1234.8	1132.8	1114.0

SOUTHSIDE SNAKE RIVER BASINS
Watershed Snowpack Analysis - February 1, 2000

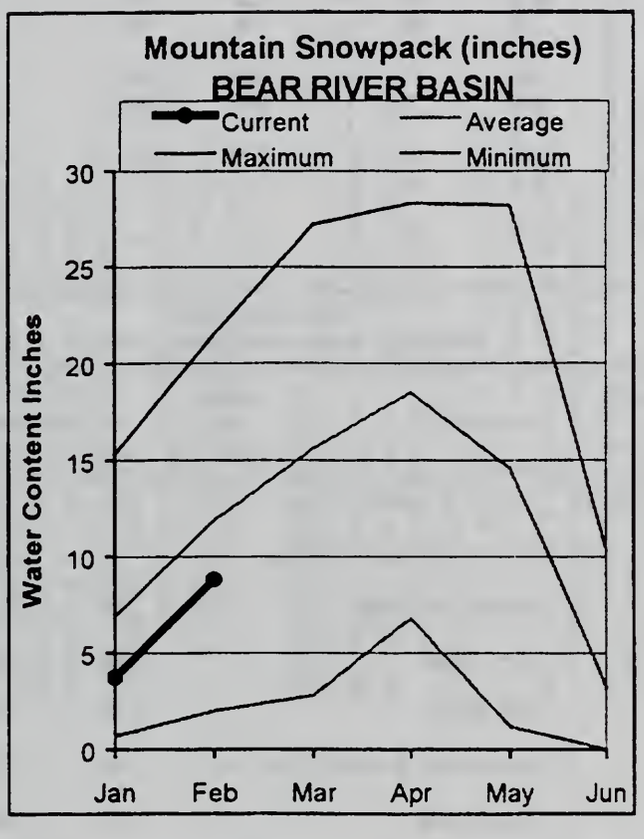
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Raft River	2	100	96
Goose-Trapper Creeks	3	82	84
Salmon Falls Creek	7	82	82
Bruneau River	7	87	85
Owyhee Basin Total	20	80	93

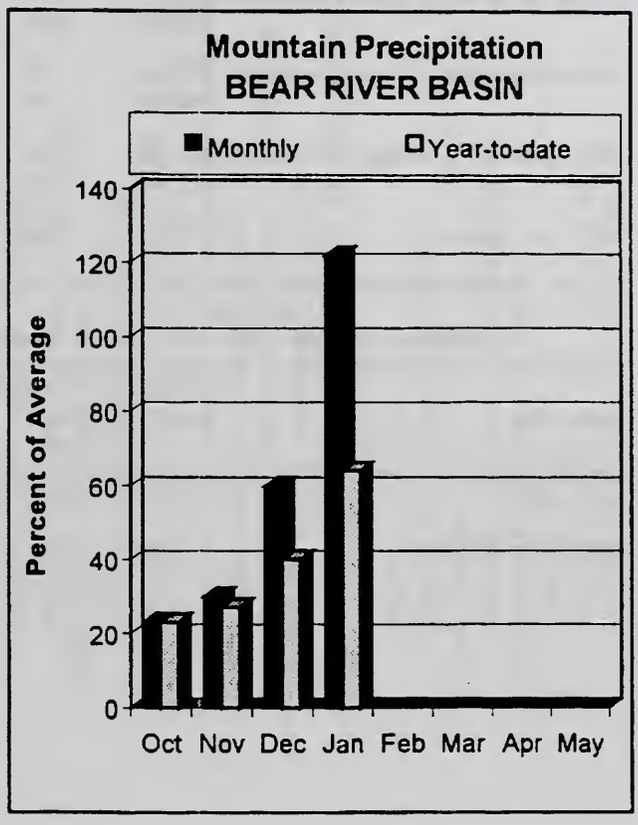
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

BEAR RIVER BASIN
FEBRUARY 1, 2000





WATER SUPPLY OUTLOOK

January precipitation was 122% of average but is only 64% of average for the water year, the lowest in the state. Snowpacks increased by about 25 percentage points from last month and now range from 65-75% of average. Bear Lake and Montpelier Reservoir are each about 75% of capacity and will help buffer the effects of below normal streamflow volumes. Streamflow forecasts in the Bear River basin are the near the lowest in the state and range from 55-65% of average. Water users with access to storage water or Bear Lake water will have an adequate water supply this summer. Water users and winter recreationists can keep their fingers crossed and hope the storms that crossed the southern Idaho and northern Utah in January continue to bring more moisture.

BEAR RIVER BASIN
Streamflow Forecasts - February 1, 2000

Forecast Point	Forecast Period	<<== Drier == Future Conditions == Wetter ==>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
BEAR R nr Randolph, UT	APR-JUL	7.0	50	80	68	110	153	118
	APR-SEP	2.0	51	84	66	117	166	127
SMITHS FK nr Border, WY	APR-JUL	46	58	69	68	82	104	102
	APR-SEP	56	70	82	70	96	121	118
THOMAS FK nr WY-ID State Line (Disc.	APR-JUL	9.5	13.9	18.0	55	23	34	33
	APR-SEP	10.8	15.6	20	56	26	37	36
BEAR R blw Stewart Dam nr Montpelier	APR-JUL	44	107	150	52	193	256	288
	APR-SEP	50	121	170	52	219	290	327
MONTPELIER CK nr Montpelier (Disc)(2	APR-JUL	3.9	5.2	6.2	51	7.5	9.8	12.2
	APR-SEP	5.1	6.5	7.6	54	9.0	11.4	14.2
CUB R nr Preston	APR-JUL	15.6	24	30	64	36	44	47

BEAR RIVER BASIN
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
BEAR LAKE	1421.0	1110.6	1136.4	978.0
MONTPELIER CREEK	4.0	2.8	2.2	1.6

BEAR RIVER BASIN
Watershed Snowpack Analysis - February 1, 2000

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Smiths & Thomas Forks	4	87	79
Bear River ab WY-ID line	11	87	74
Montpelier Creek	2	78	70
Mink Creek	1	84	65
Cub River	1	78	77
Bear River ab ID-UT line	18	84	73
Malad River	1	73	65

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Streamflow Adjustment List For All Forecasts Published In Idaho Basin Outlook Report Streamflow forecasts are projections of runoff volumes that would have occurred naturally without influences from upstream reservoirs or diversions. These values are referred to as natural or adjusted flows. To make these adjustments, changes in reservoir storage, diversions, and inter-basin transfers are added or subtracted from the observed (actual) streamflow volumes. The following list documents the adjustments made to each forecast point in this report. (Revised 1/2000).

Panhandle River Basins

KOOTENAI R AT LEONIA, ID
+ LAKE KOOCANUSA (STORAGE CHANGE)

CLARK FORK AT WHITEHORSE RAPIDS, ID
+ HUNGRY HORSE (STORAGE CHANGE)
+ FLATHEAD LAKE (STORAGE CHANGE)
+ NOXON RAPIDS RESV (STORAGE CHANGE)

PEND OREILLE LAKE INFLOW, ID
+ PEND OREILLE R AT NEWPORT, WA
+ HUNGRY HORSE (STORAGE CHANGE)
+ FLATHEAD LAKE (STORAGE CHANGE)
+ NOXON RAPIDS (STORAGE CHANGE
+ PEND OREILLE LAKE (STORAGE CHANGE)

PRIEST R NR PRIEST R, ID
+ PRIEST LAKE (STORAGE CHANGE)

COEUR D'ALENE R AT ENAVILLE, ID - No Corrections

ST. JOE R AT CALDER, ID - No Corrections

SPOKANE R NR POST FALLS, ID
+ COEUR D'ALENE LAKE (STORAGE CHANGE)

SPOKANE R AT LONG LAKE, WA
+ COEUR D'ALENE LAKE (STORAGE CHANGE)
+ LONG LAKE, WA (STORAGE CHANGE)

Clearwater River Basin

DWORSHAK RESERVOIR INFLOW, ID
+ DWORSHAK RESV (STORAGE CHANGE)
- CLEARWATER R AT OROFINO, ID
+ CLEARWATER R NR PECK, ID

CLEARWATER R AT OROFINO, ID - No Corrections

CLEARWATER R AT SPALDING, ID
+ DWORSHAK RESV (STORAGE CHANGE)

Salmon River Basin

SALMON R AT SALMON, ID - No Corrections

SALMON R AT WHITE BIRD, ID - No Corrections

Weiser, Payette, Boise River Basins

WEISER R NR WEISER, ID - No Corrections

SF PAYETTE R AT LOWMAN, ID - No Corrections

DEADWOOD RESERVOIR INFLOW, ID
+ DEADWOOD R BLW DEADWOOD RESV NR LOWMAN
+ DEADWOOD RESV (STORAGE CHANGE)

LAKE FORK PAYETTE RIVER NR MCCALL, ID – No Corrections

NF PAYETTE R AT CASCADE, ID
+ CASCADE RESV (STORAGE CHANGE)

NF PAYETTE R NR BANKS, ID
+ CASCADE RESV (STORAGE CHANGE)

PAYETTE R NR HORSESHOE BEND, ID
+ DEADWOOD RESV (STORAGE CHANGE)
+ CASCADE RESV (STORAGE CHANGE)

BOISE R NR TWIN SPRINGS, ID - No Corrections

SF BOISE R AT ANDERSON RANCH DAM, ID
+ ANDERSON RANCH RESV (STORAGE CHANGE)

BOISE R NR BOISE, ID
+ ANDERSON RANCH RESV (STORAGE CHANGE)
+ ARROWROCK RESV (STORAGE CHANGE)
+ LUCKY PEAK RESV (STORAGE CHANGE)

Wood and Lost River Basins

BIG WOOD R AT HAILEY, ID - No Corrections

BIG WOOD R NR BELLEVUE, ID - No Corrections

BIG WOOD R BLW MAGIC DAM NR RICHFIELD, ID
+ MAGIC RESV (STORAGE CHANGE)

LITTLE WOOD R NR CAREY, ID
+ LITTLE WOOD RESV (STORAGE CHANGE)

BIG LOST R AT HOWELL RANCH NR CHILLY, ID - No Corrections

BIG LOST R BLW MACKAY RESV NR MACKAY, ID
+ MACKAY RESV (STORAGE CHANGE)

LITTLE LOST R BLW WET CK NR HOWE, ID - No Corrections

LITTLE LOST R NR HOWE, ID - No Corrections (Disc)

Upper Snake River Basin

HENRYS FORK NR ASHTON, ID
+ HENRYS LAKE (STORAGE CHANGE)
+ ISLAND PARK RESV (STORAGE CHANGE)

HENRYS FORK NR REXBURG, ID
+ HENRYS LAKE (STORAGE CHANGE)
+ ISLAND PARK RESV (STORAGE CHANGE)
+ DIV FM HENRYS FK BTW ASHTON & ST. ANTHONY, ID
+ DIV FM HENRYS FK BTW ST. ANTHONY & REXBURG, ID
+ GRASSY LAKE (STORAGE CHANGE)

FALLS R ABV YELLOWSTONE CANAL NR SQUIRREL, ID
+ GRASSY LAKE (STORAGE CHANGE)

TETON R ABV SO LEIGH CK NR DRIGGS, ID - No Corrections

TETON R NR ST. ANTHONY, ID
- CROSS CUT CANAL
+ SUM OF DIVERSIONS ABV GAGE

SNAKE R NR MORAN, WY
+ JACKSON LAKE (STORAGE CHANGE)

PALISADES RESERVOIR INFLOW, ID
+ SNAKE R NR IRWIN, ID
+ JACKSON LAKE (STORAGE CHANGE)
+ PALISADES RESV (STORAGE CHANGE)

SNAKE R NR HEISE, ID
+ JACKSON LAKE (STORAGE CHANGE)
+ PALISADES RESV (STORAGE CHANGE)

BLACKFOOT RESVERVOIR INFLOW, ID
+ BLACKFOOT RIVER
+ BLACKFOOT RESERVOIR (STORAGE CHANGE
SNAKE R NR BLACKFOOT, ID
+ PALISADES RESV (STORAGE CHANGE)
+ JACKSON LAKE (STORAGE CHANGE)
+ DIV FM SNAKE R BTW HEISE AND SHELLY GAGES
+ DIV FM SNAKE R BTW SHELLY AND BLACKFT, ID
PORTNEUF R AT TOPAZ, ID - No Corrections
AMERICAN FALLS RESERVOIR INFLOW, ID
+ ALL CORRECTIONS MADE FOR HENRYS FK NR REXBURG, ID
+ JACKSON LAKE (STORAGE CHANGE)
+ PALISADES RESV (STORAGE CHANGE)
+ DIV FM SNAKE R BTW HEISE AND SHELLY GAGES
+ DIV FM SNAKE R BTW SHELLY AND BLACKFT GAGES

Southside Snake River Basins

OAKLEY RESERVOIR INFLOW, ID
+ GOOSE CK ABV TRAPPER CK NR OAKLEY, ID
+ TRAPPER CK NR OAKLEY, ID
SALMON FALLS CK NR SAN JACINTO, NV - No Corrections
BRUNEAU R NR HOT SPRINGS, ID - No Corrections
OWYHEE R NR GOLD CK, NV
+ WILDHORSE RESV (STORAGE CHANGE)
OWYHEE R NR OWYHEE, NV
+ WILDHORSE RESV (STORAGE CHANGE)
OWYHEE R NR ROME, OR
+ WILDHORSE RESV (STORAGE CHANGE)
+ JORDAN VALLEY RESV (STORAGE CHANGE)
OWYHEE RESERVOIR INFLOW, OR
+ OWYHEE R BLW OWYHEE DAM, OR
+ OWYHEE RESV (STORAGE CHANGE)
+ DIV TO NORTH AND SOUTH CANALS
SUCCOR CK NR JORDAN VALLEY, OR - No Corrections
SNAKE R - KING HILL, ID - No Corrections
SNAKE R NR MURPHY, ID - No Corrections
SNAKE R AT WEISER, ID - No Corrections
SNAKE R AT HELLS CANYON DAM, ID
+ BROWNLEE RESV (STORAGE CHANGE)

Bear River Basin

BEAR R NR RANDOLPH, UT
+ SULPHUR CK RESV (STORAGE CHANGE)
+ CHAPMAN CANAL DIVERSION
+ WOODRUFF NARROWS RESV (STORAGE CHANGE)
SMITHS FORK NR BORDER, WY - No Corrections
THOMAS FORK NR WY-ID STATELINE - No Corrections (Disc)
BEAR R BLW STEWART DAM, ID
+ SULPHUR CK RESV (STORAGE CHANGE)
+ CHAPMAN CANAL DIVERSION
+ WOODRUFF NARROWS RESV (STORAGE CHANGE)
+ DINGLE INLET CANAL
+ RAINBOW INLET CANAL
MONTPELIER CK AT IRR WEIR NR MONTPELIER, ID (Disc)
+ MONTPELIER CK RESV (STORAGE CHANGE)
CUB R NR PRESTON, ID - No Corrections

RESERVOIR CAPACITY DEFINITIONS (Units in 1,000 acre-feet, KAF)
Different agencies use various definitions when reporting reservoir capacity and contents. Reservoir storage terms include dead, inactive, active, and surcharge storage. This table lists these volumes for each reservoir, and defines the storage volumes NRCS uses when reporting capacity and current reservoir storage. In most cases, NRCS reports usable storage, which includes active and inactive storage. (Revised October 1998)

BASIN/ RESERVOIR	DEAD STORAGE	INACTIVE STORAGE	ACTIVE STORAGE	SURCHARGE STORAGE	NRCS CAPACITY	NRCS CAPACITY INCLUDES
PANHANDLE REGION						
HUNGRY HORSE	39.73	--	3451.00	--	3451.0	ACTIVE
FLATHEAD LAKE	Unknown	--	1791.00	--	1971.0	ACTIVE
NOXON RAPIDS	Unknown	--	335.00	--	335.0	ACTIVE
PEND OREILLE	406.20	112.40	1042.70	--	1561.3	DEAD+INACTIVE+ACTIVE
COEUR D'ALENE	--	13.50	225.00	--	238.5	INACTIVE+ACTIVE
PRIEST LAKE	20.00	28.00	71.30	--	119.3	DEAD+INACTIVE+ACTIVE
CLEARWATER BASIN						
DWORSHAK	--	1452.00	2016.00	--	3468.0	INACTIVE+ACTIVE
WEISER/BOISE/PAYETTE BASINS						
MANN CREEK	1.61	0.24	11.10	--	11.1	ACTIVE
CASCADE	--	50.00	653.20	--	703.2	INACTIVE+ACTIVE
DEADWOOD	1.50	--	161.90	--	161.9	ACTIVE
ANDERSON RANCH	29.00	41.00	423.18	--	464.2	INACTIVE+ACTIVE
ARROWROCK	--	--	286.60	--	286.6	ACTIVE
LUCKY PEAK	--	28.80	264.40	13.80	293.2	INACTIVE+ACTIVE
LAKE LOWELL	--	8.00	169.10	--	177.1	INACTIVE+ACTIVE
WOOD/LOST BASINS						
MAGIC	--	--	191.50	--	191.5	ACTIVE
LITTLE WOOD	--	--	30.00	--	30.0	ACTIVE
MACKAY	0.13	--	44.37	--	44.4	ACTIVE
UPPER SNAKE BASIN						
HENRYS LAKE	--	--	90.40	--	90.4	ACTIVE
ISLAND PARK	0.40	--	127.30	7.90	135.2	ACTIVE+SURCHARGE
GRASSY LAKE	--	--	15.18	--	15.2	ACTIVE
JACKSON LAKE	--	--	847.00	--	847.0	ACTIVE
PALISADES	44.10	155.50	1200.00	--	1400.0	DEAD+INACTIVE+ACTIVE
RIRIE	4.00	6.00	80.54	10.00	80.5	ACTIVE
BLACKFOOT	--	--	348.73	--	348.7	ACTIVE
AMERICAN FALLS	--	--	1672.60	--	1672.6	ACTIVE
SOUTHSIDE SNAKE BASINS						
OAKLEY	--	--	74.50	--	74.5	ACTIVE
SALMON FALLS	48.00	--	182.65	--	182.6	ACTIVE
WILDHORSE	--	--	71.50	--	71.5	ACTIVE
OWYHEE	406.83	--	715.00	--	715.0	ACTIVE
BROWNLEE	0.45	444.00	975.30	--	1419.3	INACTIVE+ACTIVE
BEAR RIVER BASIN						
WOODRUFF NARROWS	--	1.50	57.30	--	57.3	ACTIVE
WOODRUFF CREEK	--	4.00	4.00	--	4.0	ACTIVE
BEAR LAKE	--	--	1421.00	--	1421.0	ACTIVE
MONTPELIER CREEK	0.21	--	3.84	--	4.0	DEAD+ACTIVE

Interpreting Streamflow Forecasts

Introduction

Each month, five forecasts are issued for each forecast point and each forecast period. Unless otherwise specified, all streamflovv forecasts are for streamflow volumes that would occur naturally without any upstream influences. Water users need to know what the different forecasts represent if they are to use the information correctly when making operational decisions. The following is an explanation of each of the forecasts.

Most Probable (50 Percent Chance of Exceeding) Forecast. This forecast is the best estimate of streamflow volume that can be produced given current conditions and based on the outcome of similar past situations, There is a 50 percent chance that the streamflow volume will exceed this forecast value. There is a 50 percent chance that the streamflow volume will be less than this forecast value.

The most probable forecast will rarely be exactly right, due to errors resulting from future weather conditions and the forecast equation itself. This does not mean that users should not use the most probable forecast; it means that they need to evaluate existing circumstances and determine the amount of risk they are willing to take by accepting this forecast value.

To Decrease the Chance of Having Too Little Water

If users want to make sure there is enough water available for their operations, they might determine that a 50 percent chance of the streamflow volume being lower than the most probable forecast is too much risk to take. To reduce the risk of not having enough water available during the forecast period, users can base their operational decisions on one of the forecasts with a greater chance of being exceeded (or possibly some point in-between). These include:

70 Percent Chance of Exceeding Forecast. There is a 70 percent chance that the streamflow volume will exceed this forecast value.
There is a 30 percent chance the streamflow volume will be less than this forecast value.

90 Percent Chance of Exceeding Forecast. There is a 90 percent chance that the streamflow volume will exceed this forecast value.
There is a 10 percent chance the streamflow volume will be less than this forecast value.

To Decrease the Chance of Having Too Much Water

If users want to make sure they don't have too much water, they might determine that a 50 percent chance of the streamflow being higher than the most probable forecast is too much of a risk to take. To reduce the risk of having too much water available during the forecast period, users can base their operational decisions on one of the forecasts with a smaller chance of being exceeded. These include:

30 Percent Chance of Exceeding Forecast. There is a 30 percent chance that the streamflow volume will exceed this forecast value. There is a 70 percent chance the streamflow volume will be less than this forecast value.

10 Percent Chance of Exceeding Forecast. there is a 10 percent chance that the streamflow volume will exceed this forecast value. There is a 90 percent chance the streamflow volume will be less than this forecast value.

Using the forecasts - an example

Using the Most Probable Forecast. Using the example forecasts shown below, users can reasonably expect 36,000 acre-feet to flow past the gaging station on the Mary's River near Death between March I and July 31.

Using the Higher Exceedence Forecasts. If users anticipate a somewhat drier trend in the future (monthly and seasonal weather outlooks are available from the National Weather Service every two weeks), or if they are operating at a level where an unexpected shortage of water could cause problems, they might want to plan on receiving only 20,000 acre-feet (from the 70 percent chance of exceeding forecast). In seven out of ten years with similar conditions, streamflow volumes will exceed the 20,000 acre-foot forecast.

If users anticipate extremely dry conditions for the remainder of the season, or if they determine the risk of using the 70 percent chance of exceeding forecast is too great, then they might plan on receiving only 5000 acre-feet (from the 90 percent chance of exceeding forecast). Nine out of ten years with similar conditions, streamflow volumes will exceed the 5000 acre-foot forecast.

Using the Lower Exceedance Forecasts. If users expect wetter future conditions, or if the chance that five out of every ten years with similar conditions would produce streamflow volumes greater than 36,000 acre-feet was more than they would like to risk, they might plan on receiving 52,000 acre-feet (from the 30 percent chance of exceeding forecast) to minimize potential flooding problems. Three Out of ten years with similar conditions, streamflows will exceed the 52,000 acre-foot forecast.

In years when users expect extremely wet conditions for the remainder of the season and the threat of severe flooding and downstream damage exists, they might choose to use the 76,000 acre-foot (10 percent chance of exceeding) forecast for their water management operations. Streamflow volumes will exceed this level only one year out of ten.

WEISER, PAYETTE, BOISE RIVER BASINS
Streamflow Forecasts

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding *						
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SF PAYETTE RIVER at Lowman	APR-JUL	329	414	471	109	528	613	432
	APR-SEP	369	459	521	107	583	673	488
BOISE RIVER near Twin Springs (1)	APR-JUL	443	610	685	109	760	927	631
	APR-SEP	495	670	750	109	830	1005	

For more information concerning streamflow forecasting ask your local NRCS **field** *office for a copy of "A* **Field** *Office Guide* **for** *Interpreting Streamflow Forecasts'.*

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